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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/045,556

Filing Date: January 11, 2002

Appellant(s): BRABSON ET AL.

Timothy J. Wall
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 1/30/2007 appealing from the Office action mailed 8/8/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5,280,470	Buhrke et al	January 18, 1994
5,835,484	Yamato et al	November 10, 1998
5,938,743	Nahidipour et al	August 17, 1999

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 1> **Claims 1-7, 9-12, 17-21 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Buhrke et al. (US 5,280,470) ["Buhrke"].**

- 2> **In regards to claim 1 and 23, Buhrke discloses a method of improving traffic management in a network, comprising steps of:**

Art Unit: 2152

- a. detecting a changed environmental condition (e.g. virtual channel request- col. 5 ll. 1-3, establishment of virtual channel, col. 5 ll. 34, rate of active cells- col. 5 ll. 35);
- b. generating notification of the detected condition (e.g. message with number of channels - col. 5 ll. 11-12, load reduction request- col. 5 ll. 37, column 6 «lines 21-26»)
- c. analyzing the generated notification by consulting one or more criteria (e.g. analyses whether value of N_1/N_2 is acceptable- col. 5 ll. 20-21, analyzes load reduction request -col. 5 ll. 35)
- d. determining, at a currently executing application, based on the analysis, whether the currently executing application should modify a behavior of the currently-execution application (e.g. determining whether to accept or reject number of channels col. 5 ll. 20-24, determining whether to increase or decrease a factor col. 5 ll. 44-46)

3> In regards to claim 2, Buhrke discloses the method according to claim 1, further comprising the step of modifying, by the currently-executing application, the behavior of the currently executing application (e.g. modifying the request levels col. 5 ll. 20-24, reducing or increasing the factor col. 5 ll. 44-46, column 6 «lines 21-26» - reducing bandwidth)

4> In regards to claim 3, Buhrke discloses the method according to claim 2, wherein the modification comprises reducing the size of one of more data objects generated by the currently executing application [e.g. reduce rate of cells, lower bucket, reduce bandwidth virtual channel col. 5 ll. 35-400, col. 611-20 & column 4 «lines 17-19»].

5> In regards to claim 4, Buhrke discloses the method according to claim 2 wherein the modification comprises reducing data retrieval by the currently-executing application (e.g. decreasing the N₂ factor col. 5 ll. 46-47)

6> In regards to claim 5, Buhrke discloses the method according to claim 2, wherein the modification comprises dropping one or more connections with the currently executing application (e.g. disconnection of a virtual channel, col. 6 ll. 33-49)

7> In regards to claim 6, Buhrke discloses the method according to claim 2, wherein the modification comprises increasing a sized of one or more data objects generated by the currently-executing application (e.g. increasing the number of virtual channels, hence increasing the load col. 6 ll. 2-8).

8> In regards to claim 7, Buhrke discloses the method according to claim 2, wherein the modification comprises increasing data retrieval by currently-executing application (e.g. increasing the N₁ Factor col. 5 ll. 44-47).

9> In regards to claim 9, Buhrke discloses the method according to claim 2, wherein the modification comprises changing the currently-executing applications use of one or more other applications (e.g. execution of a slow down process col. 6 ll. 55-60).

Art Unit: 2152

10> In regards to claim 10, Buhrke discloses the method of claim 1, wherein the changed environmental condition (e.g. virtual channel exceeds rate-col. 6 ll. 34-35) pertains to system-related conditions (e.g. switch detection of excess rate col. 6 ll. 33-40).

11> In regards to claim 11, Buhrke discloses the method of claim 1, wherein the changed environmental condition pertains to network related conditions (e.g. detecting load on the network col. 5, lines 34-47).

12> In regards to claim 12, Buhrke discloses the method of claim 1, wherein environmental condition (e.g. pertains to client related conditions in one or more clients (terminal, switch) of the currently executing application (col. 5, lines 34-47).

13> In regards to claim 17, Buhrke discloses the method of claim 1, wherein the changed environmental condition occurred externally to a system in which the currently-executing application is executing [column 6 «lines 31-48»].

14> In regards to claims 18-21, Buhrke discloses the method of claim 17, wherein:
the generated notification pertains to a condition of a client of the currently executing application [column 6 «lines 8-27»], to a condition of a remote network platform [Figure 1 «item 4» | Figure 4 «item 400» : switch overloaded?], or to a condition of a remote server with which the currently executing application is communicating [Figure 1 «item 4» | Figure 4 «item 400» : switch is interpreted as a remote server].

Art Unit: 2152

Buhrke also discloses making adjustments pertaining to the remote server [Figure 2 «item 216» | Figure 3 «item 310»].

15> Claims 1 and 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamato et al (US 5,835,484) ["Yamato"].

16> In regards to claim 1, Yamato discloses a method of improving traffic management in a network, comprising steps of:

- a. detecting a changed environmental condition (e.g. detecting violations in environment, congestion state col. 6 ll. 30-35, col. 6 ll. 45-55, col. 12 ll. 15) ;
- b. generating notification of the detected condition (e.g. notify of violation col. 12 ll. 17-19, col. 12 ll. 59-60)
- c. analyzing the generated notification by consulting one or more criteria (analyzing and consulting monitoring parameters, col. 12 ll. 1. 33-39)
- d. determining, at a currently executing application, based on the analysis, whether the currently executing application should modify a behavior of the currently-execution application (e.g. determination to modify application monitoring parameters col. 12 ll. 34-40).

Yamato's cell traffic regulation unit is interpreted as a currently executing application. The unit may change its monitoring parameter in response to network conditions.

17> In regards to claim 13, Yamato discloses the method according to claim 1. Burke is silent on herein the changed environmental condition occurred internally in to a system in which the currently executing application is executing (col. 7 ll. 40-45, system of fig 1).

18> In regards to claim 14, Yamato discloses the method according to claim 13 wherein the generated notification pertains to a condition of a local network protocol stack (condition indicator within a payload field of a header-31 where the indicator is used to determine existence of condition; if condition exists a notification is sent col. 7 ll. 20-39, col. 8 ll. 10-15,abs).

19> In regards to claim 15, Yamato discloses the method according to claim 13, wherein the generated notification pertains to a condition of the system in which the currently executing (execution of a program for monitoring connection-121, col. 5 ll. 53-60) application is executing.

20> In regards to claim 16, Yamato discloses the method of claim 13, wherein the analyzing step is performed by a policy manager component of the system in which the currently-executing application is executing [Figure 1 «item 203»].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2152

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

21> Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buhrke et. al. (US 5,280,470) in view of Nahidipour et al. (US 5,938,743)

22> In regards to claim 8 Buhrke discloses the method according to claim 2.

Buhrke is silent on wherein modification comprises changing thread assignments of the currently executing application

Nahidipour et al. discloses changing thread assignments (e.g. reducing threads) of a currently executing application in order to ensures improved data transfer efficiency, lower utilization of system resources, and memory (col. 5 ll. 45-56.).

It would be obvious to one of ordinary skill in the art at the time of the invention to modify Buhrke by changing thread assignments (e.g. reducing threads) of a currently executing application, as taught by Nahidipour et al. in order to ensures improved data transfer efficiency, lower utilization of system resources, and memory as number of threads for system calls is reduced (col. 5 ll. 45-56. col. 8 ll. 37-43).

(10) Response to Argument

I. THE §102 REJECTIONS UNDER BUHRKE AND YAMATO

Claim 1 consists of four steps – a detection, a generation, an analysis and a determination step. Appellant argues that the analysis step implicitly takes place at the currently executing application [Appellant's Appeal Brief, pg. 6, ¶2, pg. 7, ¶3]. However, it is not clear from the claims that any of the steps beyond the determination step takes place at the currently executing application. This interpretation is further supported by the fact that the currently-executing application is not even recited until the last step (the determination step) in claim 1. As the currently-executing application is cited only in the last step of the claim, Appellant's strained interpretation in transporting the currently-executing application into either of the preceding steps should not be considered persuasive.

A. Buhrke discloses all the limitations of claims 1 and 23.

Appellant's arguments are premised on an exceedingly narrow interpretation of Appellant's broadly written claims. Appellant argues that Buhrke does not disclose "determining at a currently-executing application, based on the analysis, whether the currently-executing application should modify a behavior of the currently-executing application" (emphasis in original) [Appellant's Brief, pg. 7, ¶2]. Appellant interprets this limitation as requiring the step to occur entirely at the currently-executing application.

Appellant also characterizes Buhrke's terminal application as not being aware of the environmental conditions. Appellant's focus on Buhrke's switch initiating the process seems to imply that Appellant's determination step should be interpreted as the currently-executing application initiating the step to determine whether a modification is necessary. The thrust

of all of Appellant's arguments are that the steps of claim 1, or at least the analysis and determination steps, take place entirely on the currently-executing application. But nothing in Appellant's claims mandate this narrow construction. The limitation simply requires the currently-executing application to determine whether it should modify its behavior. The claims do not recite how it makes this determination or whether the analysis can take place at another device.

Appellant asserts that any modification of Buhrke's currently-executing application (the terminal equipment) is initiated by the switch [Appellant's Brief, pg. 8, ¶1]. Appellant also asserts that Buhrke's determination step occurs at the switch and, in contrast, the determination step of the instant invention occurs at the "application itself without any interaction with a switch" [Appellant's Brief, pg. 7, ¶2]. However, the claims merely disclose that a determination step is performed at a currently-executing application and does not explicitly claim against interaction with another device as part of the determination process.

Buhrke's terminal application is interpreted as analogous to Appellant's claimed currently-executing application. Buhrke discloses that the terminal application determines whether to modify its behavior based on the analysis that occurs at the switch [column 5 «line 61» to column 6 «line 27»]. Buhrke's terminal application receives a proposed modification from the switch to modify the terminal application's bandwidth. The terminal application then determines whether the modification should be accepted or rejected. Therefore, the terminal application determines, based on the switch's analysis, whether to modify (reduce) its bandwidth at the terminal application. Additionally, it should be noted that Buhrke discloses a second embodiment where the terminal application proposes the

modification of behavior to the switch after the terminal application determines that such a modification is necessary [column 5 «lines 1-33»].

B. Yamato discloses all the limitations of claim 1.

Appellant argues that Yamato does not disclose “determining *at a currently-executing application*, based on the analysis, whether *the currently-executing application should modify a behavior of the currently-executing application*” (emphasis in original) [Appellant’s Brief, pg. 9, §3]. Appellant argues that the present invention “may do away with the need for Yamato’s cell traffic regulation unit because the regulation may be done by the application itself” [Appellant’s Brief, pg. 9, §3].

However, Yamato’s regulation unit is interpreted as being analogous as Appellant’s currently-executing application. Appellant argues that Yamato’s regulation unit regulates traffic between applications, but is not itself an application. However, nothing in the claims or in Appellant’s specification limits or defines an application in any way that prohibits interpreting Yamato’s regulation unit as a currently-executing application. The claim language merely recites that the currently-executing application determines, based on an analysis, whether to modify its behavior.

Yamato’s regulation unit is an application that meets this claim limitation. The regulation unit determines, based on an analysis of network conditions whether the regulation unit should modify its behavior [column 12 «lines 34-40»]. The regulation unit clearly determines whether to modify various application monitoring parameters – the modification of these parameters results in a modification in the unit’s monitoring behavior

[abstract : "...the monitoring parameter used in monitoring and regulating the flow of communication data..."].

C. Buhrke discloses the limitations of claims 3 and 6.

Claim 3 recites that the modification comprises reducing a size of one or more data objects generated by the currently-executing application. Appellant argues that Buhrke's teaching of increasing or reducing the rate of data transmission is not analogous. However, Buhrke discloses transmitting frames from the currently-executing application [abstract | column 1 «lines 47-52»]. Each frame consists of a number of data cells – but the number of data cells for each frame is not fixed. Buhrke further recites that to control congestion within the network, the number of cells transmitted from an application is limited or reduced [column 2 «lines 59-66»]. Thus, in reducing the number of cells transmitted across the network, the size of the frames (which consist of the cells) are also reduced [column 5 «lines 8-10 and 34-47»]. Therefore, Buhrke discloses reducing the size of data objects (frames) that are generated by the terminal application.

Claim 6 recites the modification comprising increasing a size of the data objects. As noted in the response to claim 3, Buhrke discloses increasing the rate of transmission of cells across a network. These cells are transmitted together as a frame (or message) [column 5 «lines 8-10»]. In increasing the rate of transmission for the terminal application, the number of cells within the transmitted frame or message also increases [column 5 «lines 1-19»]. Thus, the size of the frame increases as a result of the increase in the rate of transmission for the terminal application.

D. Buhrke discloses the limitations of claims 4 and 7.

Claim 4 recites the modification comprising reducing data retrieval. Appellant argues that Buhrke is merely directed at negotiation of the rate between the terminal application and the switch. However, Buhrke discloses that the amount of data received and transmitted by the terminal application is reduced by either reducing the rate of data transmission within a channel or dropping a channel altogether [Figure 3 «item 310» | column 2 «lines 53-66» : “the network input received from that terminal is limited by these parameters”]. Appellant’s claimed data retrieval is analogous to the data being received by the terminal application. Thus, there is a reduction in data retrieved by the terminal application.

Claim 7 recites the modification comprising increasing the data retrieval by the currently-executing application. Buhrke discloses that the rate of data transmission to the terminal application can be increased by adding an entire new channel to the application [column 6 «lines 2-9»]. Adding another channel increases the amount of data that can be received by the terminal application. Therefore, this functionality is analogous to increasing the data retrieval of Buhrke’s application.

E. Buhrke discloses the limitations of claims 5 and 9.

Appellant repeats the argument that Buhrke is simply directed at rate negotiation between the terminal application and a switch. Claim 5 recites the modification comprising dropping one or more connections. Contrary to Appellant’s argument, Buhrke discloses dropping a connection between the terminal application and the switch [Figure 3 «item 310»].

Claim 9 recites the modification comprising changing the use of one or more other applications. Buhrke discloses that the terminal application changes its use of the virtual

channels [column 6 «lines 49-68»]. The virtual channels are analogous to Appellant's claimed "one or more other applications." Buhrke's terminal application changes its use of the virtual channels by either increasing or decreasing the data rate flowing through them.

II. THE §103 REJECTION OVER BUHRKE IN VIEW OF NAHIDIPOUR.

Claim 8 was rejected over Buhrke in view of Nahidipour. Nahidipour was relied upon to teach modification comprising changing thread assignments of a currently-executing application. Nahidipour discloses that changing thread assignments such as by reducing the number of threads to a currently executing application improves prior art systems because it reduces the utilization of system resources [column 5 «lines 49-52»].

Appellant argues that the motivation to combine Buhrke and Nahidipour is based on "subjective belief and unknown authority." However Nahidipour clearly discloses that the reduction in the number of threads utilized by an application would enhance and improve the efficiency of applications that could not reduce the number of threads, such as with Buhrke's system.

Art Unit: 2152

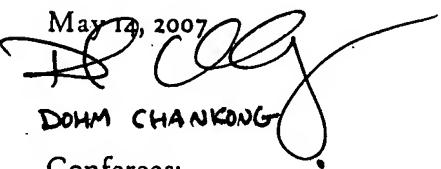
(ii) Related Proceeding(s) Appendix

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

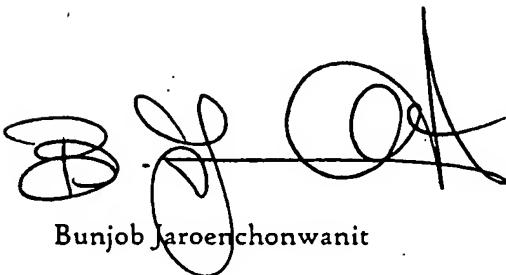
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May 14, 2007


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